



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE "UNINUNDATED LANDS" IN PTOLEMAIC AND ROMAN EGYPT

BY W. L. WESTERMANN

PART II

ATTITUDE OF THE GOVERNMENT, OWNER, AND TENANT

The *ἄβροχος γῆ* in Egypt was that land which was not reached by the Nile flood, but was actually capable of irrigation by the expenditure of extra labor in running deep field laterals into it. The amount of the *ἄβροχος* in any section varied with the height of the annual inundation. The important fact as to the government's attitude toward this category of grain land is that, in so far as our present testimony goes, the rulers of Egypt demanded and received from the "unflooded" land certainly as high a rate of taxes and rentals as it received from the flooded lands, possibly even a higher rate.

The proof of this statement is to be found in an analysis of P. Brux. I. Previous discussions of this important document have always been conducted upon the assumption that the administrative, or ownership, categories (temple land, royal domain, private land) were the all-important factors. Actually the vital distinctions are the production categories (flooded, unflooded, and dry).

Of P. Brux. I there has been preserved the lower part of eleven columns, about two-thirds of each column being lost.¹ The outer portions of columns I and XI are gone. The tabulation in this record is by "sown land," *σπορίμη γῆ*, and "unflooded land," *ἄβροχος γῆ*. The term "sown land" or "seed land" is here the same as "flooded land," *βεβρεγμένη γῆ*.² The report is drawn up by *σφραγίδες*, or land divisions, of which the seventh, eighth, ninth, and tenth divisions are sufficiently well preserved to give a thoroughly trustworthy picture. I have analyzed and tabulated below the estimates

¹ *Musée Belge*, VIII (1904), 102; Wilcken, *Papyruskunde*, *Chrestomathie*, p. 273.

² Cf. Wessely, *Stud. Pal.*, X, 50, *ἰδι(ωτικῆς) ἀβρόχ(ου) ἀπὸ σπορᾶς*, and P. Teb. I, 60, 51-4, where the "sown land," *ἐσπαρμένη*, is contrasted with the *ἄσπορος βεβρεγμένη*, the flooded land which was not sown.

of the village scribe for the flooded and unflooded land as contained in the document, separating the privately owned lands, which pay a land tax, from the royal domain, which pays rent in kind to the government. Accompanying the report upon the eighth and ninth divisions we have a notation made by the inspectors, in a second hand, of the actual amount of unflooded land as determined by the inspection (*ἐπίσκεψις*). These have been included by me in the tabulation below. In the reckoning, the fractions of *arourae* and of the total sums of the grain to be exacted have not been considered.

I. LAND TAX UPON *ιδιωτικῇ γῇ*, PRIVATE LAND

7TH DIVISION

	<i>Arourae</i>	Paying	Average per <i>aroura</i>
Flooded land	94	115 <i>artabae</i> wheat	Pays at $1\frac{1}{5} + \text{artabae}$
Unflooded land	190	238 <i>artabae</i> wheat	Pays at $1\frac{1}{4} - \text{artabae}$

8TH DIVISION

Flooded land	41	61 <i>artabae</i> wheat	Pays at $1\frac{1}{5}$ <i>artabae</i>
Unflooded land	140	166 <i>artabae</i> wheat	Pays at $1\frac{1}{5} - \text{artabae}$

As revised by the inspection (*ἐπίσκεψις*)

Unflooded land	$50\frac{1}{4}$	62 <i>artabae</i> wheat	Pays at $1\frac{1}{5}$ <i>artabae</i>
--------------------------	-----------------	-------------------------	---------------------------------------

9TH DIVISION

Flooded land	30	$37\frac{1}{2}$ <i>artabae</i> wheat	Pays at $1\frac{1}{4} - \text{artabae}$
Unflooded land	123	208 <i>artabae</i> wheat	Pays at $1\frac{1}{4}$ <i>artabae</i>

As revised by the inspection (*ἐπίσκεψις*)

Unflooded land	86	148 <i>artabae</i> wheat	Pays at $1\frac{7}{8}$ <i>artabae</i>
--------------------------	----	--------------------------	---------------------------------------

10TH DIVISION

Flooded land	40	50 <i>artabae</i> wheat	Pays at $1\frac{1}{4}$ <i>artabae</i>
Unflooded land	163	221 <i>artabae</i> wheat	Pays at $1\frac{2}{5}$ <i>artabae</i>

The customary land tax on private lands was one *artaba* to the *aroura* plus certain additions called *προσμετρούμενα* or *προσδιαγραφόμενα*.¹ It is to be observed that these "additions" are, on the average, slightly higher upon the unflooded land in the seventh, ninth, and tenth divisions than upon the flooded. Also it should be noted that

¹ See Rostowzew, article *frumentum*, in Pauly-Wissowa, *RE*, VII, 160.

in the two cases where a revision of the estimates was made (eighth and ninth divisions) the result is an increase. In the eighth division this increase is negligible. In the ninth it amounts to 20 per cent, which is by no means negligible.

In the estimates of the eighth division the average of the taxes on the unflooded land is considerably lower than the average upon the flooded. The reason for this I can only surmise. The natural suggestion, that this division must have been peculiarly difficult to irrigate, is belied by the description of the boundaries of the division. A supply ditch (*ὕδραγωγός*) runs along the entire length of its western boundary, a main ditch (*διῶρυξ*) along a part of the northern boundary, and another supply ditch forms a part of the southern boundary. Other agencies than the difficulty of artificial irrigation must have weakened the productive character of the soil of the unflooded tracts in this division.

Taking the average of the four divisions together¹ the flooded land pays at 1.285+, the unflooded at 1.355+ *artabae* to the *aroura*. The government therefore receives as an average 7 per cent more from the unflooded land in these divisions than from the flooded.

II. RENTS FROM βασιλικὴ γῆ, ROYAL DOMAIN

7TH DIVISION

	<i>Arourae</i>	Paying	Average per <i>aroura</i>
Flooded Land ² . . .	31	139 <i>artabae</i> wheat	Pays at $4\frac{1}{2}$ <i>artabae</i>
Unflooded Land . . .	283	1290 <i>artabae</i> wheat	Pays at $4\frac{1}{2}$ + <i>artabae</i>

8TH DIVISION (No flooded land)

Unflooded land . . .	280	1319 <i>artabae</i> wheat (plus a little barley)	Pays at $4\frac{7}{10}$ <i>artabae</i>
----------------------	-----	---	--

As revised by the inspection (*ἐπίσκεψις*)

Unflooded land . . .	101	408 <i>artabae</i> wheat (plus a little barley)	Pays at 4 <i>artabae</i>
----------------------	-----	--	--------------------------

¹ The average is taken from the sums given in the estimates before the inspection and the consequent revision. The figures given in the revisions of divisions 8 and 9 would not, however, materially affect the result.

² In the four divisions of this village district upon which the information has been preserved, it is noteworthy that most of the land easily reached by the inundation was held in private ownership.

9TH DIVISION

(No flooded land)

Unflooded land . . .	63	251 <i>artabae</i> wheat (plus 68 <i>artabae</i> barley)	Pays at 4 in wheat (plus 1 in barley)
----------------------	----	---	--

As revised by the inspection

Unflooded land . . .	41	166 ¹ <i>artabae</i> wheat (plus 3½ <i>art.</i> barley)	Pays at 4 <i>artabae</i>
----------------------	----	---	--------------------------

10TH DIVISION

(No flooded land)

Unflooded land . . .	24	120 <i>artabae</i> wheat (plus 11 barley)	Pays at 5 <i>artabae</i> wheat (plus ½— barley)
----------------------	----	--	---

According to this estimate flooded land was expected upon the royal domain only in the seventh division. Consequently it is only there that we have the possibility of comparing the rents upon the flooded and the unflooded lands.² The result is the same as that obtained in dealing with the taxes upon the private lands. Again the unflooded pays a slight increase over the flooded land.

This conclusion is entirely supported by B.G.U. I, 84, of 242/43 A.D., found in the Fayum. It is the account of a village scribe, whose name is lost, and reads (ll. 4 ff.):

. . . for the exaction of grain revenues of the exchequer and the patrimonial estates³ through the state peasants for the sixth year of our Lord Imperator Caesar Marcus Antonius Gordianus Pius Felix Augustus. The sum total is:

From Pelusium:⁴ Due the exchequer and the patrimonial estates through the state peasants: *Arourae* [5]⁵ 517½ ⅓ ¼, paying in wheat *artabae* 29,299½ ⅓ ½ ¼, in barley *artabae* 302½ ⅓, in beans 1261½ ⅓ ¼ ⅛. Of this

¹ In *Musée Belge*, VIII, 114, a printer's error gives the resolution of ρξς (p. 108) as 107½.

² The inspection showed flooded fields (βεβρεγμένη) in the eighth and ninth divisions. But as their payments are not noted down by the inspectors we cannot use them.

³ εἰς ἀπαίτησιν σιτικῶν φόρων διοικήσεως καὶ οὐσιακῶν διὰ δη(μοσίων) γεωργῶν.

⁴ Village in the Fayum in the division of Themistus. P. Fay. 89, 4, and P. Teb. II, Appendix II, p. 395.

⁵ I regard the restoration of line 11, γεωργ[ῶν] 7-ἐφιζ' ε ηξδ, which is my own, as certain. The substitution of 4 or 6 would in either case give an impossible payment of rentals upon state lands which are inundated. For explanation of the fractions see Wilcken's notes to B.G.U. 84.

amount the unflooded land (*ἀβροχος*) is *arourae* 4,437 $\frac{2}{3}$ $\frac{1}{8}$ $\frac{1}{4}$ paying in wheat *artabae* 24,565 $\frac{1}{4}$, in barley *artabae* 297 $\frac{1}{2}$ $\frac{1}{8}$, in beans. . . . The remainder is *arourae*. . . .

Tabulation of this account, again disregarding the fractions, gives the following result:

RENTS UPON STATE LANDS

	<i>Arourae</i>	Paying	Average per <i>aroura</i>
Total	5,517	29,299 <i>artabae</i> wheat 302 <i>artabae</i> barley 1,261 <i>artabae</i> beans	
Unflooded land	4,437	24,565 <i>artabae</i> wheat 297 <i>artabae</i> barley <i>artabae</i> beans	Pays at 5 $\frac{1}{2}$ + (Negligible) (Negligible)

Subtracting the amounts of unflooded from the total we have:

	<i>Arourae</i>	Paying	Average per <i>aroura</i>
Flooded	1,080	4,734 <i>artabae</i> wheat 5 <i>artabae</i> barley	Pays at 4 $\frac{1}{2}$ — (Negligible)

Again the result is quite clear. The unflooded land, granting that my restoration of the total *arourae* to 5,517 is correct, here paid a much higher rent than the flooded, in fact a full 25 per cent increase.

In Menches' report of 114/13 B.C. there appears in the list of the lands producing no revenue for the state 39 $\frac{1}{8}$ *arourae* once "unflooded" (*ἀβροχος*),¹ which in the year 114/13 B.C. were classified as *τῶν ἐν ἐπιστάσει*. This phrase, which still lacks a satisfactory explanation,² need not confuse one in regard to this bit of "unflooded" land. The essential fact is that these 39 $\frac{1}{8}$ *arourae* so long as they were still productive in the "unflooded" class, paid rent at 4 $\frac{1}{2}$ $\frac{1}{3}$ $\frac{1}{2}$ *artabae* to the *aroura*. A basis of comparison of this rent on unflooded land with the state's income from flooded lands is found in P. Teb. I, 71, where Menches gives the statement of the area of Kerkeosiris for the year 113 B.C. For the "flooded and sown land"³ the area was 1193 $\frac{1}{2}$ $\frac{1}{4}$ *arourae*, the rental of which was 4665 $\frac{1}{3}$ $\frac{1}{2}$ *artabae*. The average rent per *aroura* on the flooded land was therefore only

¹ P. Teb. I, 72, ll. 427-39.

² See the discussion in P. Teb., Appendix I, pp. 576-80. I have not been able to find its technical meaning in any of the papyri published since those in P. Teb. I.

³ Lines 2-3, *προσάγγελμα τῆς βεβρεγμένης καὶ ἐσπαρμένης*.

$3\frac{9}{10} + artabae$, which is considerably lower than that exacted from the $39\frac{1}{8}$ *arourae* of unflooded land cited above.

The fact about the unflooded land, in so far as our present data go, is that it pays on a different system from the flooded land, and quite as much if not more than the flooded. In other words the Egyptian government was attempting to force production on the unflooded land, to compel the owner or leaseholder to see to it that the extra labor required to irrigate the unflooded land should be undertaken.¹ The whip used to enforce this was a high tax or a high rent upon the unflooded land. It is the principle lying at the base of the single-tax theory. A similar measure, though the circumstances differ somewhat, was proposed by Lord Grey in 1833 at the time of the Emancipation Act of the Jamaica negroes.² The negroes derived their provisions, under the plantation slave system, from their own provision grounds. Foreseeing that they would not work on the plantations for wages, but would work only enough to produce a living from these lands, Lord Grey proposed a tax on the provision grounds. The Jamaica legislature, however, refused to adopt the measure.

The system in Egypt was clearly so devised that there would be no escape from the taxes in kind upon the *ἄβροχος γῆ*. The owner or the lessee declared the amount of land which had been left unflooded by the previous inundation, and was, therefore, "unflooded during the present year."³ Those declarations upon which the date is preserved, fall in Mecheir (P. Oxy. VIII, 1113); Phamenoth (P. Oxy. XII, 1459, 1549); Pharmouthi (P.S.I. III, 161, P. Teb. II, 324); and Epiph (P. Fay. 33), that is, approximately from the beginning of February to the middle of July, which is the period of low Nile just preceding the flood time. The amount of the unflooded thus declared for any given year was used as the basis

¹ Similar in its purpose and character is the insistence that the rent must be exacted upon flooded land which, by neglect of the cultivators, has not been sown. P. Teb. I, 67, l. 71.

² Egerton, Hugh E., *A Short History of British Colonial Policy*, London, 1897, p. 330. Lord Grey was the British Colonial Secretary from 1846 to 1852.

³ P. Teb. II, 324; B.G.U., I, 139, *ἄβροχηκίας*; P. Grenf. II, 56, l. 10, *ἡβροχηκέναι*. The translations of the editors in P. Teb. 324 ("as having been unirrigated") and in P. Grenf. II, 56 ("had not been irrigated") are very misleading.

for the inspection of the following year, which took place after the inundation.

This explanation makes it possible to understand more clearly that part of the priestly praises of Ptolemy III in the Canopus inscription which deals with the low Nile and its results.¹ A particular year of low Nile is mentioned. All the people of Egypt were in terror at what had befallen, recalling the disaster which had occurred under certain of the former kings in whose time it had happened that the natives met with low inundations (*ἀβροχίας* here seems to be used in the pregnant sense that they faced wide stretches of uninundated land, *ἄβροχος γῆ*).² But Ptolemy, taking many precautionary measures and remitting not a few of the revenues for the sake of the safety of his subjects, had grain imported into the country at higher prices, from Syria and Phoenicia and Cyprus and other places; and so he saved the inhabitants of Egypt. The benevolence of Ptolemy III lay in the fact that he sacrificed the interests of the treasury by not exacting the customary high taxes or rents on the unflooded lands, which were in that year so great that the peasants looked with terror upon the prospect of being forced to cultivate and pay in kind upon them all. The context³ shows that the *ἀβροχίαι* had to do with the grain revenues of the state. It is clear that if the unflooded land had received remission or lowering of taxes in case of low Niles (causing *ἀβροχίας*), the people would not have suffered to the same degree as the treasury did. But the Canopus inscription shows that the *people*, and *not* the state, actually *did* suffer because of the *ἄβροχος γῆ*, due to the taxes and rents upon this type of land.

The edict of Tiberius Julius Alexander, the Alexandrian Jew who was prefect of Egypt in 66-69 A.D., contains a section⁴ which throws

¹ Dittenberger, *Orientalis Graeci Inscr.*, 56, ll. 14-19.

² The demotic translation at this point does not serve to clarify the Greek original. E. Revillout, *Chrestomathie Démotique*, Paris, 1880, p. 133, translates the demotic text as follows: "ils se lamentaient a cause de les choses advenues quand ils se reportaient aux malheurs arrivés (étant) sous les rois qui furent auparavant que il arriva a les hommes qui en Égypte (d') être en disette (??) sous eux." Evidently the demotic text has no word corresponding to *ἀβροχίαι*s of the Greek text.

³ Especially the *σῖτον μεταπεμψάμενοι εἰς τὴν χώραν τιμῶν μειζόνων* of ll. 17-18.

⁴ Dittenberger, *Orientalis Graeci Inscriptiones*, 669, par. 12.

some additional light upon the tax collection upon the flooded and unflooded lands. After speaking of the peculations of the *eclogistae* (the assessors) and the *strategi*, the prefect proceeds:

A similar type of falsification is the so-called "collection based on an average,"¹ not based on the current Nile rise but on a comparison of certain former Nile rises. And yet nothing seems more just than the truth. Therefore I bid the people to live confidently and till the soil zealously, knowing that the tax collection will be based upon the truth as to the current Nile rise and the flooded² land, and not upon the false record of those who make entries "based on an average."

Since the tax estimate and the collection upon the flooded land (βεβρεγμένη γῆ), as I have shown above, was regarded as "normal" or "uncontested" (ὁμόλογος), the variability of the taxes as implied in the edict of Julius Alexander must have lain in the amount of the unflooded and the assessment upon it. If my understanding of the unflooded land and its taxes and rents is correct, the injustice worked upon the taxpayer or state lessee by the collection on the basis of an average of several years lay in two facts:

1. The average of the unflooded (ἄβροχος) of any given number of previous years might be more than the actual area of the unflooded land in the current year. The peasant might therefore be forced to pay the higher tax on a part of his land, as unflooded, which was actually flooded and subject only to the normal tax (as being "uncontested," ὁμόλογος).

2. The entries of the tax officials, *eclogistae* and *strategi*, when the estimate and collection were made upon the computation of an average of several years, could not be controlled by the peasant taxpayer or lessee, as they could when the actual amount of the flooded and unflooded land was the basis of calculation. The real amounts of the flooded and unflooded were facts which the peasant knew. Against overexactions and falsified statements he might then make his appeal for redress.

The statement of the astute Jewish prefect shows that the *truth* as to the amount of the *flooded* land did not worry the taxpayer or the state lessee. It must therefore be the *untruth* about the

¹ ἡλεγομένη κατὰ σύνοψιν ἀπαίτησις, l. 55.

² πρὸς τὸ ἀληθὲς τῆς οὐσης ἀναβάσεως καὶ τῆς βεβρεγμένης, l. 57.

unflooded land. If the unflooded had received remission of taxes or rents the peasant would have had nothing to worry about. This brings us again to the conviction that the unflooded land is the crux of the Egyptian land-tax problem.

Conclusion.—The irrigation of the unflooded land required a much greater expenditure of labor than that of the flooded. The Egyptian government wished to force production to its limit upon the arable land. The method employed to this end was the exaction of a high tax and high rentals each year from the land which came under the production category of unflooded (ἄβροχος).

THE TENANT AND THE UNFLOODED LAND

The mistake which so long persisted as to the remission or lowering of taxes and rents upon the unflooded lands was based primarily upon the annual declarations (ἀπογραφαί) of the ἄβροχος γῆ by the landowner. The conclusion thus wrongly drawn was strongly supported by false interpretations of two other types of documents, namely, (1) the many private land leases which we have; (2) contracts of Egyptian peasants with the government to lease, at greatly reduced rentals, lands deteriorating in production, until these should again be brought up to a state of high productivity. We have several examples of the latter type of document. They fall in the time of Hadrian when the question of farm abandonment and decreased grain production had become very serious.

The facts in regard to the attitude of the tenant, the actual tiller of the soil, toward the ἄβροχος γῆ, as expressed by his demands in the leases which he signed, must be closely considered. This requires a statement of one's attitude upon certain moot points in regard to the incidence of and responsibility for the land tax and land rent in Egypt.

Preisigke,¹ Eger,² and Grenfell and Hunt³ hold to the theory that the responsibility for the land tax fell primarily upon the lessee

¹ Fr. Preisigke in P. Strassb., I, 23, p. 89, and in *Girowesen im griechischen Aegypten*, Strassburg, 1910, p. 78.

² Eger, Otto, *Zum aegyptischen Grundbuchwesen in römischer Zeit*, Leipzig, 1909, pp. 188–89.

³ P. Fay. 33, note to l. 18; P. Oxy. II, 268, note to l. 18. Cf. note to l. 11 of P. Oxy. XII, 1460.

rather than the landowner. Ulrich Wilcken¹ and Otto Waszynski² hold to the view that it was the direct lessee in the case of state land, and the landowner in the case of private land, who was subject to and ultimately responsible for the rent or taxes.

General considerations of taxation methods lead to the assumption that the ultimate tax obligation rested legally upon the landowner, or direct lessee of government land, rather than upon the tenant. It is the general rule in empirical taxation. It is also the fundamental legal theory of Roman land taxation.³

Specifically, for Egyptian land taxation the primary tax obligation of the landowner as against the lessee, or the rental obligation of the direct lessee as against the sublessee, is proven by a number of considerations:

1. In the Ptolemaic land lists kept by Menches, the village scribe of Kerkeosiris, 119–112 B.C., the information booked upon the land register was: the name of the cleruch who held the land as γῆ ἐν ἀφύσει; the amount of the land; the character of the cultivation upon it; and at the end the name of the actual tenant, given in the form γεωργὸς Θοτεῖς, γεωργὸς Χεύρις Χεύριος, etc.;⁴ or, if the cleruch cultivated his own land, as γεωργὸς αὐτός.⁵ The important person to the state was evidently the landowner or direct lessee. If the government had held the tenant responsible the name of the landowner or direct lessee would not have been needed in the record office.

2. In the ἀπογραφαί of unflooded land it is always the *landowner* who makes the declaration, giving the name of the tenants.⁶

3. A series of documents of the year 223–22 B.C.⁷ gives clear proof of the government's view that the responsibility for the rentals upon its lands rested primarily upon the direct lessor. Three

¹ *Papyruskunde*, I, 1, p. 180.

² *Die Bodenpacht*, Leipzig, 1905, p. 115, n. 1, and pp. 116–17.

³ Bernhard Matthias, *Die römische Grundsteuer*, Erlangen, 1882, p. 61, where the ancient sources are available.

⁴ P. Teb. I, 62, ll. 180–236 *et passim*; 63 *passim*.

⁵ P. Teb. I, 62, ll. 195, 199, 203, etc.

⁶ P. Oxy. XII, 1459 and 1549; VIII, 1113, col. 1; B.G.U. I, 198; P. Fay. 33; P. Ham. 11.

⁷ P. Eleph. 15–19. No. 16 is in demotic.

brothers, Pinyris, Berenebthis, and Psentaes the Little, had held a lease upon 30 *arourae* of land upon which they paid rent in money. These three were middlemen, as the land was really cultivated by other peasants.¹ The three brothers, after paying one of the four instalments of the rent, became insolvent.² In their insolvency statement they had ceded the land to one Xenon.³ It was necessary, however, that Xenon acquire the land by the legal method of submitting to the government officials an application for a lease upon the 30 *arourae*. This he did,⁴ offering to make the remaining three payments of the rent, which amounted to 240 drachmas.⁵ This indication that the government held the direct lessee responsible for the rent receives further support from an incident which occurred after the period of the insolvency of the three brothers and before the question of the reassignment of a new lease upon the land had come up. After the insolvency of the three the land continued to be worked by the tenants, i.e., the actual cultivators or sublessees. In order to secure themselves in their occupancy, they submitted an engagement (*ὑπόσταςις*) to pay the rent, and apparently made the second payment. At least all arrangements were made by the proper officials for the acceptance of the payment into the royal bank at Arsinoe and for its proper posting in the records against the account of these thirty *arourae*.⁶ It was not until a month after the submission and acceptance of this engagement of the tenants that Xenon put in his bid for the lease.⁷ Nevertheless, though the tenants had presumably made the second rent payment, Xenon offers to pay the three remaining instalments, which includes the payment for which the sublessees had obligated themselves. After the insolvency of the three brothers and before the reassignment of the lease, the attitude of the government was that the three tenants were subject to the rental obligation. But they were to be reimbursed for the

¹ P. Eleph. 15, l. 3: *οἱ δ' υπογεγραμμένοι γεωργοὶ ἐπέδωκαν ἡμῖν ὑπόσταςιν*. The names of these peasants were given in an appended document which is lost.

² P. Eleph. 16, ll. 19-27.

⁵ P. Eleph. 17, ll. 27-41; 16, ll. 8-9.

³ P. Eleph. 15, 2.

⁶ P. Eleph. 15, ll. 3-4.

⁴ P. Eleph. 17.

⁷ The *ὑπόσταςις* of the tenants occurred before Thoth 25. The offer of Xenon (*ὑπόμνημα*) is dated Athyr 2.

rent paid to the state out of the payments which they were to make to the new middleman to be placed above them by the state.

4. In the majority of the extant leases of land the lessee (i.e., the tenant) puts a distinct provision in the lease that all the state taxes are to fall upon the lessor, whether he be landowner or holding from the state.¹ This is in the nature of an insurance by the tenant that the legal responsibility of the lessor shall not be avoided. It is necessitated by the method of the tax collection in kind, namely that the actual cultivator, whether tenant or landowner, usually took the grain to the village threshing floor, bearing the cost of the transportation thither.² There the government exacted its taxes or rents before the crop could be touched or moved by anyone.³ The taxes, or the rents if the land be government land, were taken out before the settlement between landlord and tenant occurred. The tenant was always subject to overexaction, especially if his lessor was, as frequently happened, a minor bureaucrat. It was to avoid these overexactions that the tenants insisted upon the specific clause mentioned above.

In support of his view that the tenant was legally responsible for the taxes Preisigke⁴ argues that that clause in the lease which makes the lessor responsible would not be necessary if the legal obligation rested upon the landowner or direct lessee. His argument is nullified by the fact that in several subleases of state or temple lands the *tenant* takes upon himself contractually the rents due the government. In all of these cases the acceptance by the tenant of this obligation of the direct lessee relieves the tenant of any payment of rent to the lessor.⁵

P. Teb. I, 105, is an example cited in his argument by Preisigke, with a wrong conclusion. It is a lease of 103 B.C. in which a certain Ptolemaeus rents from one Horion some catœcic land which Horion

¹ Waszynski, *Bodenpacht*, p. 117, gives a list of the leases containing this clause. To this list I add the following, without claim that the list is now complete: B.G.U. I, 197; P.S.I. I, 30, 32; P. Ham. 23; P. Lond. II, 168, p. 190; P. Oxy. I, 102; P. Oxy. IV, 729, 810; P. Oxy. VI, 913; P. Oxy. VIII, 1124, 1125; P. Strassb. 76.

² P. Lips. I, 19, ll. 18-24; P. Oxy. VI, 910, ll. 31-32.

³ See Rostowzew in *Archiv für Papyrusforschung*, III, 204.

⁴ In P. Strassb. 23, p. 89.

⁵ P. Teb. II, 311 and 373; B.G.U. I, 166.

had leased from Maron. Ptolemaeus is therefore a sublessee. He agrees to pay a flat rent of 120 *artabae* of wheat per annum, which is not subject to deduction.¹ The rent is to be paid in the month Payni and is to be delivered to Horion at whatever place in the village of Kerkeosiris Horion may designate, at the expense of the sublessee Ptolemaeus.² If any exaction be made upon Ptolemaeus for the state treasury in behalf of Maron or Horion, or any irregular impost, Ptolemaeus is to deduct from the total rent due to Horion an amount equal to that indicated by his receipts from the government.³ The produce of this allotment is attachable by the state for the state obligations of the direct lessee, Maron, and for those of the first sublessee, Horion. The state's rent, primarily resting upon Maron, will be exacted out of it, on the threshing floor. Ptolemaeus must, therefore, protect himself from any attempt to shift the state dues upon himself. He does it, very thoroughly.

THE ἄβροχος γῆ IN LEASES OF PRIVATE LAND

In a number of leases of private land there is a clause inserted, evidently at the instance of the lessee, in regard to the unflooded land (ἄβροχος γῆ). It is to the effect that "if any of the land shall be unflooded, it will be deducted for the lessee." The instances I have noted are:

P. Oxy. I, 101, 142 A.D. Lease for six years at 5 *artabae* of wheat per *aroura* and twelve drachmas per year. The taxes rest upon the landlord. *ἐὰν δέ τις τοῖς ἐξῆς ἔτεσι ἄβροχος γένηται, παραδεχθήσεται τῷ μεμισθωμένῳ* (ll. 24-26).

P. Oxy. III, 501, 187 A.D. Lease for four years of 2½ *arourae* at a fixed rent per annum of eight *artabae* of wheat and forty drachmas. *ἐὰν δέ τις τοῖς ἐξῆς ἔτεσι ἄβροχος παραδεχθήσεται τῷ μεμισθωμένῳ*. The taxes rest upon the landlords (ll. 27-31).

P. Oxy. VI, 910, 197 A.D. Lease for four years of five *arourae*, to be planted in the first and third years in wheat, paying rent at 6 *artabae* of wheat per *aroura*; in the second and fourth years to be planted in resting crops, paying at 32 drachmas per *aroura*. The taxes rest upon the landlord. *ἐὰν δέ τις ἀπὸ τοῦ ἰσιόντος ἔτους, ὃ μὴ εἶη, ἄβροχος γένηται παραδεχθήσεται τῷ μεμισθωμένῳ*.

¹ P. Teb. I, 105, l. 18.

² *Ibid.*, ll. 39-42.

³ *Ibid.*, ll. 48-49.

The similarity in phraseology in all these documents is notable, implying a constant and customary clause regarding the *ἄβροχος γῆ* in the leases. Equally notable is the direct connection of this clause with that which places the paying of taxes upon the landlord. The tenant gathers the harvest and takes it to the threshing floor. Here the taxes on the land, for which the landowner is responsible, are exacted, that for the *ἄβροχος* as well as that for the *βεβρεγμένη γῆ*. In these leases the tenant has been able to protect himself against the arduous labor necessary to cultivate the *ἄβροχος γῆ*, by a clause which enables him to deduct the tax on the unflooded land out of the rent, when he settles with the landlord for the year.

A different method of reaching the same result is exemplified by P. Strassb. 10, 268 A.D. Lease for one year of 11 *arourae* of land, a part of which is *ἄβροχος*. *The flooded land only is to be sown and the rent is upon it alone*; ll. 9 ff.: ἀρούρας ἑνδεκα, ἐν αἷς ἄβροχος, εἰς σπορὰν πυροῦ καὶ κατέθεσιν χορτασμάτων κατὰ τὸ ἥμισυ τὴν λειμνασθεῖσαν γῆν, φόρου ἐκάστης ἀρούρας τῆς ἐν σπόρῳ ἐκ γεωμετρίας φανησομένης, etc. This method of avoiding the laborious cultivation of the *ἄβροχος* is found also in P. Flor. III, 281, of 517 A.D.

In the Byzantine period the tenant was unable to shift upon the landowner the entire burden of the tax upon the unflooded land. Those private leases, which we have from this period, are of the sixth century. The rent paid upon the unflooded land is either one-half of that paid upon the flooded land,¹ a reduction upon the rent of the flooded portion,² or a fixed rent in money or kind.³

Characteristic of the attitude of the contracting parties in most of these leases is the phrase implying that the "unflooded" condition of the land is highly undesirable. This feeling is usually expressed in the form of a wish that it may not occur, *ἐὰν δέ τις, ὃ μὴ εἴη*,⁴ *ἄβροχος γένηται*, or in closely similar phraseology. The failure of the inundation to saturate the subsoil and fructify any part of a farm, works harm to both parties, to the tenant by cutting down

¹ P. Grenf. I, 56, ll. 12-33, date 536 A.D.

² P. Grenf. I, 57, ll. 10-11, date 561 A.D.

³ P. Lond. III, 1006, p. 261; P. Flor. III, 286, date 552 A.D. Whether rental upon the *ἄβροχος* is high or low cannot be determined in these cases.

⁴ P. Oxy. VI, 910; P. Grenf. I, 56 and 57; P. Flor. III, 286.

the amount of land in one plot which he may readily cultivate, and hence the amount of his income, even though he arrange matters so as to avoid paying rent upon the *ἄβροχος*. The landlord is harder hit. His rent is decreased—yet he must pay his high tax to the state upon the "unflooded" land.

THE *ἄβροχος γῆ* IN LEASES OF PUBLIC LAND

The extant evidence upon the attitude of the lessee of state land toward the unflooded portions (*ἄβροχος*) of that land is equally decisive. In these leases the direct lessee, the *δημόσιος γεωργός*, is usually also the tenant or actual cultivator, *γεωργὸς αὐτός*.

The clear examples are:

B.G.U. II, 640. First century. Offer, addressed to the royal scribe, to lease shore land of the state's domain. Amount of rent is lost. If any of the land becomes of the classifications "unflooded" or "waterlogged," a deduction will be made to the lessees from the rent.¹

B.G.U. II, 571.² Script of the second century. Contains in lines 8–11 a summary of a lease of one *aroura* of unproductive "dry" land (*χέρσος*) to a certain Harpocraton at 2 drachmas. The lease contained a supplementary notation that the tax was not to be exacted, and one regarding the deduction of the "unflooded and waterlogged land," *ἀβρόχου καὶ καθυδ(άρου)*.³

B.G.U. III, 831, 201 A.D. Offer to lease eighteen *arourae* of "dry" land belonging to the state. If any part becomes "unflooded" or "waterlogged" the rent will be reduced, lines 14–16: *ἐὰν δέ τις ἄβροχος ἢ καθύδατος γένηται, παραδεχθῆναί μοι τὸ [. . .] ἐκφόριον*.

P. Lond. II, 350, p. 192, 212 A.D. Offer to lease 150 *arourae* of shore land, listed in the production category of "dry" land, at a rent of 2 *artabae* of wheat per *aroura*. If any part becomes "unflooded" or "waterlogged" the rent will be reduced for the lessees.⁴

¹ For the reading of ll. 12–14, *ἐὰν δέ τις ἄβροχος ἢ καθύδατος γένηται παρα[δε]χθῆναί μοι*, see Preisigke, *Berichtigungsliste der griechischen Papyrusurkunden aus Aegypten*, Strassburg, 1913, p. 58.

² Cf. Rostowzew, *Röm. Kolonat*, p. 188.

³ The resolution *καθυδ(άρου)* is to be made instead of the editor's *καθυδ(ρου?)*.

⁴ P. Lond. II, 350, p. 193, ll. 11–12.

C.P.R. 239, 212 A.D. Offer to lease five *arourae* of shore land belonging to the state, rated in the production category of "dry" land, at two *artabae* of wheat per *aroura*. "If any part of it becomes 'unflooded' or 'waterlogged,' a reduction will be made for us *from the rent*."¹

These five leases are alike in that they all deal with state land which is rented under the production category of "dry" land. Upon that basis the lessee offers to pay the state a fixed amount. In most of these cases the plots consist of high-lying shore land (*αιγιαλός*), which will be covered by the inundation only in an abnormal year. In that case the land would be *βεβρεγμένη*. A part of it might remain under water and thus be "unproductive," useless even for hay planting. Against this contingency the leaseholder protects himself by the provision that the *καθιδάτος* portion will be reckoned out of his rent. Also in case this land, ordinarily "dry," should be partially covered by the flood, some part might be rated as *ἄβροχος* at the inspection (*ἐπίσκεψις*). The inspectors would be compelled in that case to report it in as *ἄβροχος*. The rent, under the government's system of forcing production to the limit of the land that is irrigable, would then be estimated, necessarily, upon the regular high basis of the "unflooded" land. The tenant, who is in these cases the direct lessee, at the time of the paying his rent into the state's granary, pays actually the amount fixed in the lease, showing his lease. The state then takes as a loss on its books the difference between the required high charge on the *ἄβροχος* and the actual rent paid by the lessee. The lessee has protected himself against the laborious irrigation of the *ἄβροχος*. The government has preserved intact its principle of the high rating and enforced production upon this category of land.

THE *ἐπηντλημένη γῆ* IN LEASES OF PUBLIC LAND

The *ἐπηντλημένη γῆ* has already been defined as that portion of the *ἄβροχος* which has actually been made highly productive by artificial irrigation, whether by using the chain-bucket system or by ditching into the unflooded part. The government's attitude has been explained as an attempt to enforce production to the limit by high taxation upon the "unflooded" category. Proof of the

¹ Line 11 of this document, *παραδεχθήσεται ἡμεῖν ἐκ τῶν ἐκφορίων*.

official attitude in this matter toward the tenants on the imperial domains is found in an order written in 10 A.D. by an imperial slave named Faustus to the *sitologus* of two villages named Lysimachis.¹ The *sitologus* is urged to see to it, with authorization of the toparch, the village scribe, and the other local officials, that seed is distributed to the state peasants "and to allow no *aroura* to be empty, either unflooded (*ἄβροχος*) or flooded (*ἐμβροχος*)."²

We have seen that the actual farmer, whether he rented from a private landlord or from the state, desired to avoid the necessity of irrigating the "unflooded" land, and shifted the burden of its tax and rent when he could. To the large landowner the occurrence of a low inundation, with the result of large spaces of "unflooded" land, was highly unwelcome. He must pay his tax upon it. Therefore he must irrigate it at the cost of extra labor.

To the government officials the occurrence of a large amount of *ἄβροχος γῆ* must have been equally disagreeable, since it required them to see to it that the landowners or government lessees should press production as far as possible upon this category of land at a high labor cost. It is thus that P. Lips. 105³ is to be explained. It is a letter from some lower official to a superior. The lower official says that his superior would be relieved to hear that of the 1850 *arourae* which the village scribe had declared for inspection as falling in the category of "unflooded and artificially irrigated," up to the 30th only 127 *arourae* had been determined upon as really *ἄβροχος*.

There remains one class of documents to discuss which contains a very special provision as to the "unflooded and artificially irrigated land." This is the group of offers to lease government land according to a special edict of Hadrian, which must have been published at the time of Hadrian's accession.⁴ Hadrian's edict, heralded in

¹ P. Lond. II, 256 E, pp. 95-97.

² *Ibid.* See note to line 6. *ἐμβροχος* cannot have the meaning of *ἐμβροχος*, as the context clearly shows. There is no virtue in throwing seed upon soggy ground.

³ Reprinted by Wilcken, *Papyruskunde*, *Chrestomathie*, No. 237. Lack of understanding of the economic character of the *ἄβροχος* and *ἐπηντλημένη γῆ* made it impossible for Mitteis (Introd. to P. Lips. 105) to explain the letter clearly.

⁴ For the list of eight of these offers see *Griechische Papyri im Museum des Oberhessischen Geschichtsvereins zu Giessen* (P. Giss.), I, Leipzig, 1910-12, edited by Kornemann and Paul Meyer, Nos. 4-7. The entire literature will be found in the introduction to Nos. 4-7. A ninth document of the same group has since been published as P. Ryl. 96.

these contracts of lease as an act of benevolence of the emperor, contained the order that the royal domain, public domain, and patrimonial estates of the emperor were to be cultivated "according to actual value" (*κατ' ἀξίαν ἐκάστης*), i.e., according to the crop actually sown and raised, and not according to the old decree.¹ State lands which had formerly paid in kind as high as five, four, three, or two and a fraction *artabae* per *aroura*,² were now to be rented at a uniform rate of $1\frac{1}{2}\frac{1}{4}$ *artabae* per *aroura*.

The correct understanding of this important decree has been greatly advanced by Rostowzew's letter of explanation published by Wilcken.³ For our present purpose it is only necessary to explain one clause, which appears in eight of the offers to lease⁴ which have been published. This is the clause in which the lessee stipulates that the "unflooded and a half of the artificially irrigated will be deducted according to the custom."⁵

The conclusion is clear. The lessees of the government land, as in the group of leases just discussed, stipulate that the high rent upon the *ἄβροχος*, which the government technically takes out of the produce after the threshing, will be deducted from the rent. That is, the actual overseers of the tax collection in kind, the village scribes and the guardians of the crops (*γενηματοφύλακες*),⁶ checked off upon their list at the threshing floor the payment for the "unflooded" land and then checked it back to the lessees. It is a matter of

¹ P. Lips. inv. 266, published by Wilcken in *Archiv für Papyrusforschung*, V, 245. I am hoping to publish soon the reasons for my belief that the expectation was that these plots which were taxed *κατ' ἀξίαν* were to be used for hay-cropping.

² P. Giss. 4, Introduction, p. 24.

³ *Archiv für Papyrusforschung*, V, 299.

⁴ In P. Giss. 4, 5, in the three documents under 6, in P. Brem. 34, and P. Ryl. 96. The corresponding part of P. Lips. inv. 266 is lost. The clause does not occur in P. Giss. 7, but evidently did occur in another similar lease, of which the ends of the lines appear. Cf. the photographic reproduction of P. Giss. 7 in *Klio*, VIII, 404-5, where *ἐπηντλημένης* appears in the remnants of another lease, opposite line 16.

⁵ P. Giss. 4, 6, cols. I and II, P. Brem. 34, P. Ryl. 96: *παραδεχομένης ἀβρόχου καὶ ἡμισείας ἐπηντλημένης κατὰ τὸ ἔθος*. In P. Giss. 6, col. III, *κατὰ τὸ ἔθος* is omitted. In P. Giss. 5 the clause reads: *παραδεχομένης ἀβρόχου καὶ ἐπετλημένης κατὰ τὸ ἔθος*, which would lead to the conclusion that the customary payment of half rent upon the "artificially irrigated" was applied here also.

⁶ Wilcken, *Papyruskunde, Grundzüge*, I, 1, p. 181.

book-keeping. This is the customary occurrence, *κατὰ τὸ ἔθος*, as we have seen in previous discussion of the leases.

The entirely new feature presented by these leases is that of the payment of half the rent upon the "artificially irrigated" land, the *ἐπηντλημένη γῆ*. It must have been a customary payment, *κατὰ τὸ ἔθος*. It is to be recalled that the high tax or rent imposed upon the "unflooded land" by the government had the purpose of forcing production upon the land and that this was burdensome in labor upon the tenant. In this form of lease the government agrees that upon that acreage which the tenant *does* irrigate, *ἡ ἐπηντλημένη γῆ*, he receives a deduction of one-half the rent stipulated by the government officials, after the inspection, for his "unflooded land" (*ἄβροχος γῆ*). Just as the rent upon the *ἄβροχος* which he did *not* irrigate was checked back to him *in toto* by the tax collectors, so one-half of the rent upon the land which he *had* artificially irrigated was checked back to him at the threshing floor. By this method he was remunerated for the extra labor which he had expended in irrigating the unflooded land.

Other than these applications to lease government land upon the especial terms offered by Hadrian's decree of 117 A.D. I have found only one clear example of this type of lease, which must have been quite common before the period of Hadrian and after. It is an offer to lease state lands from the municipal account of Her-mopolis,¹ of the period of Gallienus. The prospective lessee says: "If the land becomes unflooded (*ἄβροχος*) from the following year, which I pray may not occur, I will do the necessary artificial irrigation, and I will pay of the above-mentioned rent the half."² This was the type of lease which would be at the same time most fair to the tenant, and most advantageous to the government, as a method of forcing production. I believe, therefore, despite the fact that only one instance of this kind has been preserved, that it was one of the standard forms of lease existing in the Roman period.

Conclusion.—In the legal theory the landowner is responsible for the land tax, the direct lessee for the rent upon state lands.

¹ *Stud. Pal.*, V, 119, col. VII.

² *Ibid.*, II. 21-23: *ἐὰν δὲ ὁ μὴ γένοιτο ἄβροχος γένηται ἀπὸ τοῦ ἐξῆς ἔτους ἐπανάγκης ἐπαντλήσω καὶ τελέσω τῶν προκειμένων φόρων τὸ ἥμισυ.*

The actual cultivator, whether lessee of land privately owned or holding directly from the government or under sublease of government land, attempted to avoid, by the conditions of his lease, the burden of excessive labor required to make the ἀβροχος (unflooded land) productive of grain. Upon that which he could irrigate artificially, with the labor available to him, the tenant who was lessee of government land was often willing to pay one-half the government's rent demand upon the ἀβροχος γῆ.

CORNELL UNIVERSITY